Amendments to the Claims

Please amend the claims as follows:

1-28. (Canceled)

29. (Currently amended) A method of managing communication, comprising the step of causing a central control station to schedule such that allowance to transmit data is given, as a transmission right, to only one of communication stations in each time period by determining a timing of transmitting data from a communication station that is to transmit the data, to a communication station that is to receive the data, the method comprising the step of:

causing the central control station to carry out the scheduling at any time t, by using parameters C, TXOP bound, and T bound, so that a sum of transmission right granted time periods actually granted in a time period {t0, t0 + t} is always equal to or more than C·t – TXOP bound where t0 is an arbitrary time point, C is an average rate of change~~ratio~~ of the sum of the transmission right granted time periods allocated, to the communication station that is to transmit the data, by the central control station according to a reference transmission right allocation, and T delay is a maximum tolerable delay time of the data to be transmitted by the communication station that is to transmit the data, C, TXOP bound, and T bound satisfying following formulas:

Formula 1: $0 \leq$ T bound < T delay;
Formula 2: $0 < C < 1$; and
Formula 3: TXOP bound = C·T bound.

30. (Previously presented) A method of managing communication, comprising the step of causing a central control station to schedule such that allowance to transmit data is given, as a transmission right, to only one of communication

stations in each time period by determining a timing of transmitting data from a communication station that is to transmit the data, to a communication station that is to receive the data, the method comprising the step of:

causing the central control station to carry out the scheduling, by using parameters C and Tbound, so that a sum of transmission right granted time periods actually granted in a time period {t1, t2} is always equal to or more than $C \cdot \{(t2 - T\ bound) - t1\}$ where t1 and t2 are arbitrary time points ($t1 < t2$), C is an average rate of change of the sum of the transmission right granted time periods allocated, to the communication station that is to transmit the data, by the central control station according to a reference transmission right allocation, and T delay is a maximum tolerable delay time of the data to be transmitted by the communication station that is to transmit the data, C and T bound satisfying following formulae:

Formula 1: $0 \leq T\ bound < T\ delay$
Formula 2: $0 < C < 1$

31. (Previously presented) A method of managing communication, comprising the step of causing a central control station to schedule such that allowance to transmit data is given, as a transmission right, to only one of communication stations in each time period by determining a timing of transmitting data from a communication station that is to transmit the data, to a communication station that is to receive the data, the method comprising the step of:

causing the central control station to carry out the scheduling, by using a parameter Tbound and based on information concerning a traffic property of the data or a polling request, so that a sum of transmission right granted time periods actually granted in a time period {t1, t2} is a value equal to or more than a value of a time period necessary for transmitting MSDUs arriving in a time period (t1, t2- T bound), where t1 and t2 are arbitrary time points ($t1 < t2$),

and T delay is a tolerable maximum delay time (Delay bound) of the data to be transmitted by said one communication station, T bound satisfying a following formula:

Formula 1: $0 \leq$ T bound $<$ T delay

32. (Previously presented) A method of managing communication, comprising the step of causing a central control station to schedule such that allowance to transmit data is given, as a transmission right, to only one of communication stations in each time period by determining a timing of transmitting data from a communication station that is to transmit the data, to a communication station that is to receive the data, the method comprising the step of:

causing the central control station to carry out the scheduling so that (i) a value smaller than a maximum tolerable delay time Tdelay (Delay bound) of the data to be transmitted by the communication station that is to transmit the data is used as a maximum value of an interval between two successive timings of granting the transmission right, and (ii) a sum of transmission right granted time periods actually granted in a time period {t1, t2} is a value equal to or more than a value of a time period necessary for transmitting MSDUs of a normal MSDU size arriving in a time period (t1, t2 – T bound) with a mean data rate of a traffic, where t1 and t2 are arbitrary time points (t1 $<$ t2), and Tbound satisfies the condition: $0 \leq$ Tbound $<$ Tdelay.

33. (Currently amended) A method of managing communication, comprising the step of causing a central control station to schedule such that allowance to transmit data is given, as a transmission right, to only one of communication stations in each time period by determining a timing of transmitting data from a communication station that is to transmit the data, to a communication station that is to receive the data, the method comprising the step of:

causing the central control station to carry out the scheduling at any time t, by using parameters C, TXOP1 bound, T1 bound, TXOP2 bound, and T2 bound, so that a sum of transmission right granted time periods actually granted in a time period {t0, t0 + t} is always equal to or more than C·t – TXOP1 bound and equal to or less than C·t + TXOP2 bound where t0 is an arbitrary time point, C is an average rate of change~~ratio~~ of the sum of the transmission right granted time periods allocated, to the communication station that is to transmit the data, by the central control station according to a reference transmission right allocation, and T delay is a maximum tolerable delay time of the data to be transmitted by the communication station that is to transmit the data, C, TXOP1 bound, T1 bound, TXOP2 bound, and T2 bound satisfying the following formulas:

Formula 4: $0 \leq$ T1 bound $<$ T delay, $0 \leq$ T2 bound;
Formula 5: $0 < C < 1$; and
Formula 6: TXOP1 bound = C·T1 bound,
TXOP2 bound = C·T2 bound.

34. (Previously presented) The method as set forth in claim 29, wherein:

a communication station transmitting a data packet under a control of the central control station previously reserves, to the control station, information concerning a traffic property of the data packet, and

the central control station uses the information when determining the reference transmission right allocation, the information given from each communication station.

35. (Previously presented) The method as set forth in claim 29, wherein:

the central control station uses a fixed value as a concrete value of TXOP bound or T bound.

36. (Previously presented) The method as set forth in claim 29, comprising the step of causing the central control station to concretely determine TXOP bound or T bound according to information given from a communication station side.

37. (Currently amended) The method as set forth in claim 36, comprising the step of causing the central control station to concretely determine TXOP bound or T bound as a function of a maximum time interval between two successive times at which polling is desired, T max, requested from said communication station side.

38. (Previously presented) The method as set forth in claim 37, comprising the step of causing the central control station to concretely determine TXOP bound such that TXOP bound is especially C·T max.

39. (Previously presented) The method as set forth in claim 37, comprising the step of causing the central control station to concretely determine T bound such that T bound is especially T max.

40. (Previously presented) The method as set forth in claim 36, comprising the step of causing the central control station to concretely determine that TXOP bound or T bound is a function of a smallest value among values of T max of a plurality of streams to be transmitted from the communication station side, where T max is a maximum time interval between two successive times at which polling is desired.

41. (Previously presented) The method as set forth in claim 36, comprising the step of causing the central control station to concretely

determine that TXOP bound or T bound is a function of said T delay where T delay is said maximum tolerable delay time of the data to be transmitted by the communication station.

42. (Previously presented) The method as set forth in claim 36, comprising the step of causing the central control station to concretely determine that TXOP bound or T bound is a function of a smallest value among values of T delay of a plurality of streams to be transmitted by the communication station, where said Tdelay is said maximum tolerable delay time of the data to be transmitted by the communication station.

43. (Previously presented) The method as set forth in claim 29, wherein: transmission is burst transmission.

44. (Previously presented) The method as set forth in claim 36, comprising the step of causing the central control station to concretely determine TXOP bound or T bound according to information concerning which to use, Normal ACK or Group ACK given from said communication station that is to receive the data.

45. (Previously presented) The method as set forth in claim 29, comprising the step of causing said central control station to judge, according to the formulas :

Formula 1: $0 \leq$ T bound $<$ T delay;

Formula 2: $0 < C < 1$; and

Formula 3: TXOP bound = C·T bound,

whether or not a new stream is able to be accepted.

46. (Currently amended) A communication station wherein:

the communication station that is to transmit data is in a network adopting a method of managing communication, comprising the step of causing a central control station to schedule such that allowance to transmit data is given, as a transmission right, to only one of communication stations in each time period by determining a timing of transmitting data from a communication station that is to transmit the data, to a communication station that is to receive the data, the method comprising the step of:

causing the central control station to carry out the scheduling at any time t, by using parameters C, TXOP bound, and T bound, so that a sum of transmission right granted time periods actually granted in a time period {t0, t0 + t} is always equal to or more than C·t – TXOP bound where t0 is an arbitrary time point, C is an average rate of change~~ratio~~ of the sum of the transmission right granted time periods allocated, to the communication station that is to transmit the data, by the central control station according to a reference transmission right allocation, and T delay is a maximum tolerable delay time of the data to be transmitted by the communication station that is to transmit the data, C, TXOP bound, and T bound satisfying following formulas:

Formula 1: $0 \leq$ T bound $<$ T delay;

Formula 2: $0 <$ C < 1; and

Formula 3: TXOP bound = C·T bound, and

if the communication station judges that the central control station does not satisfy the method,

the communication station that is to transmit data notifies a user of a fact that the transmission right granting carried out by the central control station does not satisfy minimum requirement or due to the central control station, problems occur when transmitting a stream data.

47. (Previously presented) The method as set forth in claim 29, comprising the step of:

carrying out communication by using a mechanism in which:

(i) a communication station that is to transmit data obtains n by a following formula: using a packet error rate PER and a packet loss rate PLR of a communication path:

$$n = \text{ceiling } \{\log (PLR)/\log (PER)\},$$

where n is a desirable maximum number of times transmission is able to be carried out,

(ii) an average burst output cycle (T burst) is defined as a certain time period equal to or less than a time period T burstmax obtained by dividing, by n, a time period obtained by a formula (an tolerable transmission delay time – TXOP bound/C), and

(iii) a plurality of packets needed to be outputted in T burst are transmitted in a burst manner, and a reception station gives, to said communication station, acknowledgements with respect to the packets at once.

48. (Previously presented) The method as set forth in claim 29, comprising the step of:

carrying out communication by using a mechanism in which:

(i) a communication station that is to transmit data obtains n by a following formula using a packet error rate PER and a packet loss rate PLR of a communication path:

$$n = \text{ceiling } \{\log (PLR)/\log (PER)\},$$

where n is a desirable maximum number of times transmission is able to be carried out,

(ii) an average burst output cycle (T burst) is defined as a certain time period equal to or less than a time period T burstmax obtained by dividing, by n, a time period obtained by a formula (an tolerable transmission delay time – TXOP bound/C), and

(iii) a plurality of packets needed to be outputted in T burst are transmitted in a burst manner, and a reception station notifies to the communication station that has transmitted data, acknowledgements with respect to the packets at once.

49. (Currently amended) A method of managing communication, comprising the step of causing a central control station to schedule such that allowance to transmit data is given, as a transmission right, to only one of communication stations in each time period by determining a timing of transmitting data from a communication station that is to transmit the data, to a communication station that is to receive the data, the method comprising the step of:

causing said one communication station in each time period that is to transmit data to derive n by a following formula using a packet error rate PER and a packet loss rate PLR of a communication path:

$$n = \text{ceiling}\{\log(PLR)/\log(PER)\}$$

where n is a desirable maximum number of times transmission is able to be carried out; and

notifying the central control station that a time period equal to or less than a time period obtained by dividing, by n, a value of an tolerable

transmission delay time T delay is "a maximum time interval between two successive times at which polling is desired".

50. (Previously presented) The method as set forth in claim 49, comprising the step of carrying out communication by using a mechanism in which (i) the communication stations calculate a number of packets needed to be outputted in the maximum time interval between two successive times at which polling is desired, (ii) the packets are transmitted in a burst manner, and (iii) a reception station gives, to the communication station that has transmitted, acknowledgements with respect to a plurality of the received packets at once.

51. (Previously presented) The method as set forth in claim 47, wherein: the communication stations use, as a concrete value of the packet error rate PER, a value of PER actually measured by each communication station.

52. (Previously presented) The method as set forth in claim 48, wherein: the communication stations use, as a concrete value of the packet error rate PER, a value of PER actually measured by each communication station.

53. (Previously presented) The method as set forth in claim 49, wherein: the communication stations use, as a concrete value of the packet error rate PER, a value of PER actually measured by each communication station.

54. (Previously presented) The method as set forth in claim 47, wherein: the communication stations use a fixed value as a concrete value of the packet error rate PER.

55. (Previously presented) The method as set forth in claim 48, wherein: the communication stations use a fixed value as a concrete value of the packet error rate PER.

56. (Previously presented) The method as set forth in claim 49, wherein: the communication stations use a fixed value as a concrete value of the packet error rate PER.

57. (Previously presented) The method as set forth in claim 29, being adopted especially in a wireless network.

58. (Previously presented) The method as set forth in claim 29, being adopted especially in a power line network.

59. (Previously presented) The method as set forth in claim 29, using a communication method conforming to IEEE Std 802.11e/D3.3 2002.

60. (Currently amended) A central control station, managing communication according to a method of managing communication, comprising the step of causing a central control station to schedule such that allowance to transmit data is given, as a transmission right, to only one of communication stations in each time period by determining a timing of transmitting data from a communication station that is to transmit the data, to a communication station that is to receive the data, the method comprising the step of:

causing the central control station to carry out the scheduling at any time t, by using parameters C, TXOP bound, and T bound, so that a sum of transmission right granted time periods actually granted in a time period {t0, t0 + t} is always equal to or more than C·t – TXOP bound where t0 is an arbitrary time point, C is an average rate of change~~ratio~~ of the sum of the transmission

right granted time periods allocated, to the communication station that is to transmit the data, by the central control station according to a reference transmission right allocation, and T delay is a maximum tolerable delay time of the data to be transmitted by the communication station that is to transmit the data, C, TXOP bound, and T bound satisfying following formulas:

Formula 1: $0 \leq$ T bound $<$ T delay;
Formula 2: $0 < C < 1$; and
Formula 3: TXOP bound = C·T bound.

61. (Currently amended) A communication station, carrying out communication according to a method of managing communication, comprising the step of causing a central control station to schedule such that allowance to transmit data is given, as a transmission right, to only one of communication stations in each time period by determining a timing of transmitting data from a communication station that is to transmit the data, to a communication station that is to receive the data, the method comprising the step of:

causing the central control station to carry out the scheduling at any time t, by using parameters C, TXOP bound, and T bound, so that a sum of transmission right granted time periods actually granted in a time period {t0, t0 + t} is always equal to or more than C·t – TXOP bound where t0 is an arbitrary time point, C is an average rate of change~~ratio~~ of the sum of the transmission right granted time periods allocated, to the communication station that is to transmit the data, by the central control station according to a reference transmission right allocation, and T delay is a maximum tolerable delay time of the data to be transmitted by the communication station that is to transmit the data, C, TXOP bound, and T bound satisfying following formulas:

Formula 1: $0 \leq$ T bound $<$ T delay;

Formula 2: $0 < C < 1$; and

Formula 3: TXOP bound = C·T bound.

62. (Canceled)

63. (Previously presented) A computer-readable medium encoded with computer executable instructions for managing communication, said instructions causing a computer to execute the steps of the method of claim 29.